



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/803,743	03/17/2004	Daniel J. Kanc	70047-41-UT	6899
5179	7590	08/03/2005	EXAMINER	
PEACOCK MYERS, P.C.			CONNOLLY, PATRICK J	
P O BOX 26927			ART UNIT	
ALBUQUERQUE, NM 87125-6927			PAPER NUMBER	
			2877	

DATE MAILED: 08/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/803,743	KANE, DANIEL J.	
	Examiner	Art Unit	
	Patrick J. Connolly	2877	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 May 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>08/06/04; 05/20/05</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

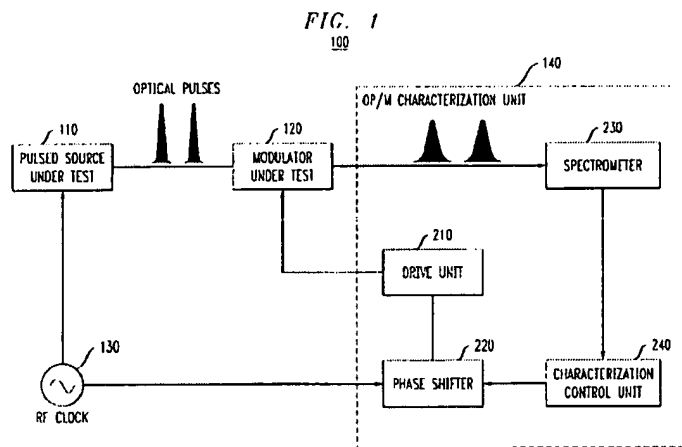
The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-21, 23 and 24 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Dorrer et al (hereafter Dorrer).

As to claims 1, 11 and 21, Dorrer discloses a method and apparatus for the characterization of optical pulses including (See Figure 1 below):



a modulator for receiving optical pulses (120);

a spectrometer receiving output from said modulator (230);

a detector receiving output form said spectrometer (230, see columns 5 and 6);

Art Unit: 2877

a phase shifter (220) receiving a gate pulse (via rf clock 130) and providing output to said modulator (via drive unit 210);

information processing means receiving output from said detector and providing commands to said phase shifter (240).

With further regard to claim 21, Dorrer discloses a clock recovery circuit (130) providing the gate pulse to the phase shifter.

As to claims 2 and 12, Dorrer discloses that the apparatus characterizes in multiple ways including intensity, phase, dispersion, polarization states, and non-linear effects (see columns 6-8).

As to claims 3 and 13, Dorrer discloses phase locking the modulator to a train of optical pulses (see column 4).

As to claims 4 and 14, Dorrer discloses the phase shifter as adjusting the time delay between the optical pulses and the gate pulse (see columns 5 and 6).

As to claims 5 and 15, Dorrer discloses frequency-resolved optical gating means (see Figure 4, also columns 6-8).

As to claims 6 and 16, Dorrer discloses that the FROG means make no constraint between the optical pulse and gate pulse (see columns 7 and 8).

As to claims 7 and 17, Dorrer discloses applying a spectral constraint to the FROG means (see column 10).

As to claims 8, 9, 18 and 19, Dorrer discloses principle components generalized projections means and spectral constraints (see columns 11 and 12)

As to claims 10 and 20, Dorrer discloses various modulators can be used (see column 3).

As to claims 23 and 24, Dorrer discloses a known gate (see column 7).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dorrer.

See the analysis with respect to claim 21 above.

As to claim 22, Dorrer does not teach a switch providing input to the spectrometer alternately between the output of the modulator and the pulse input of the modulator.

Dorrer does teach an embodiment that simultaneously measures both the modulated and input optical pulses (see Figure 8).

It would have been obvious to one of ordinary skill in the art at the time of invention to configure the apparatus of Dorrer to switch between measuring the modulated and original pulses so as to have a more complete spectral measurement of the pulse train.

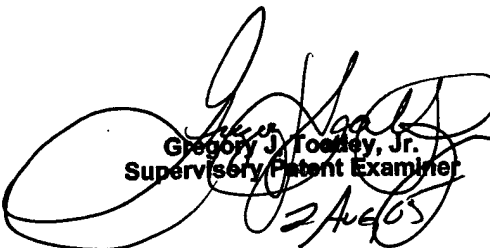
Art Unit: 2877

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patrick J. Connolly whose telephone number is 571.272.2412. The examiner can normally be reached on 9:00 am - 7:00 pm Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory J. Toatley, Jr. can be reached on 571.272.2800 ext. 77. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

pjc PJC
08-07-05


Gregory J. Toatley, Jr.
Supervisory Patent Examiner
2/16/05